DOINGWHATWORKS

Slideshow

FULL DETAILS AND TRANSCRIPT

Stamina, Effort, and Success

Mountain Ridge Middle School and Northridge Elementary School, Colorado • May 2008

Topic: National Math Panel: Critical Foundations for Algebra
Practice: Comprehensive Instruction

Highlights

- Separating reports on student progress: work habits and content
- Setting a no failure culture
- Placing responsibility on students for seeking support they need
- Structuring explicit instruction and guided practice
- Peer learning
- The mind-body connection to build stamina
- Student-led parent conferences
- Addressing negative messages from parents about math ability

About the Sites

Mountain Ridge Middle School

Highlands Ranch, CO

Demographics

83% White

7% Hispanic

7% Asian
2% Black
1% Native American
3% Free- or Reduced-Price Lunch

Douglas County Schools have developed K-12 Essential Learnings to focus on the most important "checkpoints" and to ensure that students are mastering key topics and skills. Mountain Ridge Middle School illustrates the results with:

- Essential Learnings;
- Understanding algebra as the generalization of arithmetic;
- Use of weekly data review and strategy sharing to build a culture of mathematics;
- Coaching of principal, by math supervisor, to observe the mathematics classroom;
- Separate grades on effort and content knowledge in reports to parents; and
- Responsibility placed on students, for reporting to parents, through student-led conferences.

Northridge Elementary School
Highlands Ranch, CO

Demographics
77% White
10% Asian
10% Hispanic
2% Black
6% Free- or Reduced-Price Lunch

Douglas County Schools have developed K-12 Essential Learnings to focus on the most important "checkpoints" and ensure that students are mastering key topics and skills. The elementary school demonstrates these features:

- Understanding algebra as the generalization of arithmetic; and
- Using manipulatives and visual representations to teach conceptual understanding of fractions.

Full Transcript

Presentation Title: Stamina, Effort, and Success

Douglas County School District, Highlands Ranch, Colorado

Douglas County School District administrators and staff are committed to ensuring that all students can learn higher-level mathematics. To meet this goal, they have focused attention on the importance of effort and persistence in learning.

Slide 1: Pursuing Academic Success

Slide text: Mountain Ridge Middle School and Northridge Elementary School staff have worked hard to build students' persistence, or "stamina," in pursuing success in mathematics. This focus on effort and persistence is a key part of their school culture.

Elizabeth Morris, principal of Northridge Elementary School, discusses how school culture supports this work ethic.

Audio: One of the things we've tried to convey to staff and to students, "It's not about how smart you are." We found that stops kids from the stamina of attending to problem solving and attending to solving any kind of problem they would ever have if they say, "Oh, I'm not smart enough for that." So, the culture of our school is, "It's about how hard you work, and it's how long you attend." We use that vocabulary with kids. We talk about "stamina." You can go in a kindergarten classroom, you can go in a sixth grade classroom and you'll talk to them about "stamina," and they know what that means, and they know that we're talking about their work ethic.

Slide 2: Reporting on Content and Work Habits

Slide text: Building student persistence is rooted in the shared philosophy of developing students' ownership of their own learning. One component of this is helping students understand the difference between mastery and process (i.e., that mastering the material is different from completing an assignment).

Kara Shepherd, principal of Mountain Ridge Middle School, describes systems that support this philosophy.

Audio: Well, in terms of looking as a school and as a classroom, what is it that we have in place that really helps focus student's persistence and learning in doing mathematics? I think there's a couple of things that, even as a district, that we've established. I think it starts as a school. One of the main goals that we had when we opened Mountain Ridge was focusing on student ownership of learning, and how do we get students to own their own learning, and what systems to we have in place to support that? All middle schools in Douglas County actually have a grading system that separates content grades from work habit grades. And

so every student receives a content grade, which is truly reflective of only what students know and are able to do, and a work habits grade, which would talk about homework, worth ethic, participation—those types of things. And so, I believe that students are getting really accurate feedback as to their own progress. It's not masked by, "Well, if I just get my homework in on time, then I truly have mastered the content." And so, the assessment data that teachers use to establish that content grade is really great information for students as to, "Are they meeting the standards, or do we really need to provide some additional supports?"

Slide 3: Culture of No Failure

Slide text: Students are accountable for their own mastery of topics. The culture of "no failure" means that students must complete all mathematics assignments, seeking the type of support they need. Students re-take assessments when they haven't done well so that they can work toward mastery of essential mathematics topics.

Kara Shepherd, principal of Mountain Ridge Middle School, talks about building persistence through modeling.

Audio: A key focus on helping students to understand the focus on learning is that we don't accept students to get zeroes. So the expectation is set with our students that zeros aren't okay. So if you haven't finished your homework or you haven't done the project, then there are systems in place that say, "You have to get it done." So it's a culture of, "We don't accept failure, and we know you can do it." We absolutely believe all kids are capable of doing high-level mathematics. We reinforce that by holding students accountable for doing what needs to be done. In addition to that, we expect students to take additional learning opportunities if they didn't do well on an assessment so that they can get to mastery. So we allow retakes on all of our assessments, and expect kids to take those tests again—recognizing that some students need a lot more time to gain the understanding and the true mastery of the content. We have a lot of systems in place in terms of where they can get that additional support, but I think the bigger piece of that is the culture that, "We expect you to continue to come in and get help until you've mastered that particular standard or that particular assessment and move forward." And that sends a strong message with students that, "You are capable. Everyone is capable of doing high level mathematics."

Slide 4: Lesson Structure and Teacher Modeling

Slide text: In the classroom, teachers provide explicit instruction and structure guided practice. During demonstrations, they model their own thinking and how they work through difficult mathematics concepts.

Third grade teacher, Cathleen Brooks, and sixth grade teacher, Mindy Enright, describe how modeling helps to build student accountability and persistence.

Audio: To build persistence in math, one of the things I do is modeling. I do the majority of it at first, and I talk through it, and I think out loud, and I look up into the sky for the answers as they would and try to think about, "How do you come to an answer?" And when it is their turn, instead of me saying—well, I purposely will call on those who struggle. When I ask a question, "What's the answer?" and the hands go up, I pick the hand that's not up, and they have to work through it. And when they write the answer that's wrong on the board, I say, "Okay, now show me how you got that," and they catch their own mistakes. It makes them accountable for their own learning, and they learn from it, which then makes them feel more confident.

We model that, as a teacher, to follow through until you get as far as you can go, and to question along the way, and to pull in the resources that you need.

Slide 5: Peer Learning

Slide text: Teachers at Mountain Ridge and Northridge encourage students to use each other as resources. Grouping students for working together on challenging problems sends a message about the importance of working through different types of approaches to problems.

Sixth grade teacher, Maggie Torley, describes how the "low stress" environment of cooperative groups contributes to persistence.

Audio: I also think the other thing that's important is that children having persistence in math, and feeling competent in math, is that they are working with each other, and so it's a low-stress situation. We don't have people walking around and checking-off things on clipboards at this point. They are sharing information. Often times we set them together in a group and they'll end up—one child maybe understands it a little better than someone else, and they can ask questions of each other. So it makes there be twenty-five teachers in a room instead of one. Sometimes they feel much more confident asking a fellow student how to do something than even raising their hand and asking the teacher.

Slide 6: Mind-Body Connection

Slide text: Mountain Ridge and Northridge staff believe that physical stamina and good health are essential for ensuring that children do well in academic subjects, including mathematics. Physical education not only helps students stay alert and focused, but the lessons of physical training are applied across the curriculum.

Physical education teacher, Ramona Ivie, describes her role in making sure students succeed in math.

Audio: Physical education is an amazing place to learn stamina and perseverance. One of the main things I tell the kids is, "You are going to fail. When I teach you something new, you are not going to get it the first time." That goes across the board into math, "You don't get it the first time." And I'm always teaching them, "Then you start to learn. Then we build on it. Then we continue it." And they are doing amazing. You

should see these kids. They always know, "Hey, if I don't get it this time, I'll get it next time." The other part that is very important is their physical stamina. If a child is not physically fit, they cannot pay attention in the classroom. We have noticed, since we have integrated more physical education into our curriculum, that the students are doing better on all of their testing. They're more calm; they have a greater attention span.

Slide 7: Communication with Parents

Slide text: Administrators prepare parents to expect that their children will struggle with challenging mathematics during the year. They encourage them to support their children through this struggle and not to simply provide children with answers or formulas.

Kara Shepherd, principal of Mountain Ridge Middle School, talks about informing parents of expectations.

Audio: Most all of our teams start with a letter home at the beginning of the year that talks about how math instruction may look different this year than it has in the past or different than what they experienced. We talk about this at our "Back to School Night," To talk with parents about, "This might be the first time where your students' coming home and is really struggling with math, but we have to embrace that because we're giving them really complex, challenging problems that are going to keep them engaged, and we want them to get used to, 'How do you struggle through learning the mathematics piece.' You might be tempted to just sit down and go, 'Well, here's the formula. Here's how you do the problem.' But in the long run, you're really going to hurt their learning in that." So we do talk about, "How do we teach math here, and what can you expect as a parent?" And then, "As a parent, how can you help support your child learning mathematics?"

Slide 8: Student-led Parent Conferences

Slide text: Student-led parent conferences help to support persistence and accountability. Students reflect on how far along they are in mastering key skills, what support they have received, and what they still need. They prepare portfolios and demonstrate to their parents what they've mastered and what they will do next.

Kara Shepherd, principal of Mountain Ridge Middle School, talks about student led conferences.

Audio: We do student-led conferences. Every classroom helps students, from the very beginning, to set goals around their own learning and then gather evidence. They collect a body of evidence, usually in a portfolio-type of thing, that they then will present at our student-led conference nights to their parents that demonstrate, "Here's what I'm working on. Here's where I know I need to improve. Here's what I've improved in already." So they are responsible for monitoring their own progress then. We've found

that student ownership of learning is key in getting their buy-in and understanding. When we ask them to really reflect on, "Well, I'm struggling here." "Well, what are you doing then? Are you taking advantage of the morning help, the lunchtime help, the WIN program, the tutoring program? Where are you getting the additional help that you need then?" And so, I think as a culture, that also sets that we value really persisting getting whatever it is—the help that you need to get where you need to be.

Slide 9: Messages from Parents

Slide text: Administrators and staff directly address parents' unintended negative messages to students about their mathematics ability. They make sure that parents understand that saying, "I wasn't good in math," may be heard by the child as permission not to try hard.

Kara Shepherd, principal of Mountain Ridge Middle School, talks about confronting low parental expectations.

Audio: One of the hardest things for math teachers in our building to hear is a parent that comes in and says, "I was never good at math, so I don't expect my child to be good at math." Our teachers are wonderful at being able to help parents understand that, "You might not have been good at math because you didn't have the right opportunities to really learn math, and we know from working with our students that, given the right amount of support and the right instruction, that every student can be an excellent mathematics student. We've actually confronted parents and say, "Please don't say that to your child, because we don't believe that. We really do believe that every child is capable of high-level mathematics. And it really doesn't set the kind of mind frame that we're asking for kids to go into mathematics if you say that in front of them. And so we've had some behind the scenes conversations with parents about the damage you do when you make those kinds of comments to students.

Slide 10: A Parent's Perspective

Slide text: Parents see the results of schoolwide dedication to the school's focus on stamina as students who might normally get left behind mathematically are brought to mastery.

Northridge parent, Julie Weber, talks about seeing the impact the school's commitment had on her own daughter.

Audio: The thing that impresses me the most about Northridge Elementary is their overall value system that every child can achieve, that every student is challenged to do their best, that that effort to always do their best—that's just a value that the school embraces. I have two children. One child is a math wiz; the other was not and struggled with math. It was encouraging to me as a parent to know that my child, especially that struggled with math, was not just set aside as the rest of the class marched on. And that every effort

was made to address her particular learning style, to give her the extra chances she needed, the extra time she needed to get the material. Understanding that she needed to master one set of skills before she could move on to the next. At every grade level, that was a commitment that I saw from the teachers in the classroom.